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Local Government Partnerships for Developing Shared Management Information Systems (MIS) in Romania

Over the past two years, Romanian cities have engaged in an effort to develop general MIS applications for local governments in such areas as finance and budgeting, inventory control, planning, and management. They envision using MIS as a means to achieve greater control over their own financial resources and manage their activities in a key phase of the reform process in Romania. This monograph is intended to share positive experiences of cooperation among city halls, regii, and other institutions in developing MISs for local governments. It is also meant to assist the cities in better understanding MIS, facilitating cooperation, identifying "hidden" resources, developing a strategic plan, brokering partnerships, and implementing their computer development plans.

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Founded in 1914, the International City/County Management Association (ICMA) is a non-profit professional association committed to enhancing the quality and performance of local government administration throughout the U.S. and internationally. ICMA has over 8,000 members world-wide, including top appointed administrators, elected officials, members of the academic community, and other professionals who share the goal of improving local government.

The mission of ICMA's International Municipal Programs is to support and strengthen local government institutions in developing countries and emerging democracies. With the financial support of the U.S. Agency for International Development's Office of Environment and Urban Programs, ICMA is engaged in a wide range of technical assistance activities in Central and Eastern Europe, the New Independent States (NIS), Latin America, Asia, and Africa. ICMA provides an array of services, training programs, and authoritative publications on virtually every aspect of municipal government, management, and finance.

In 1993, the United States Agency for International Development (USAID) asked ICMA to carry out a Local Government Assistance Program in Romania. The goal of the Program is to encourage and support efforts to devolve responsibility, authority, and management of resources to local governments in Romania.

ICMA, working in close association with the Federation of Municipalities of Romania, has developed a program of technical assistance and training with the cities of Braşov, Constanţa, Craiova, Focşani, Oradea, and Piatra Neamţ.

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This report is based on the work carried out in Braşov and Focşani by ICMA consultant Mircea Enache, Professor of Urban Planning at Johns Hopkins University. This report was funded by USAID under the Local Government and Housing Privatization Project for Central and Eastern Europe (Contract No. EUR-0034-C-00-2034-00, Request for Services #136). The consultant and ICMA acknowledge the continued interest and support of Mayor Adrian Moruzi of Braşov and Mayor Nicolae Latcan of Focşani, together with their information systems staff.

To ensure the successful development and use of MIS at the local government level, it is critical that all interested organizations participate in developing an MIS implementation plan. Too many city halls have embarked on MIS development without considering the benefits that cooperation with other agencies within a city, and with other cities, can afford. Also, too few cities have thought about the institutional requirements for MIS. It is easy to buy off-the-shelf components such as hardware and software, but it is not so easy to obtain the necessary data in a usable, reliable format or to design appropriate applications.

Few city halls have enough resources to undertake MIS projects on their own, but combining the resources of local city halls, regii, and other institutions can enable cities to undertake substantial projects in computer applications. However, the spirit of sharing and cooperation is under-utilized, and the know-how to make deals and negotiate "win-win" partnerships is lacking. This monograph shares successful experiences of such cooperation for the benefit of all local governments in Romania.

Background

Efforts Toward Decentralization

The democratic reform in Romania cannot be carried out without decentralization and devolution of power to local governments. Empowering the counties and cities will eventually build a solid public administration system in which the central government will preside over strong, innovative, and entrepreneurial local governments. However, the central government is reluctant to decentralize power to local governments that are inexperienced and may lack the necessary skills to take on new responsibilities.

Although Romania began reforming its local government system immediately after the revolution by passing a local public administration and election law in 1991, it still has not passed a new

local finance law. Since the transition, local government finances have become more centralized. In 1991, central government transfers accounted for over 40 percent of local government revenue. In 1993, the proportion increased to 75 percent. However, the road to achieving more autonomy and responsibility for the local governments requires not only a proper legal and financial foundation but also a continuous process of education, capacity building, communication, and dialogue between the central government and the cities.

The Role of MIS

Mayors and local government officials are looking at management information systems as a means to ease some of the constraints imposed on city halls by the central government. Local governments can use MIS to improve their capacity to manage local resources and to take ownership of a most valuable resource--information. Establishing state-of-the-art computer systems in a city hall can empower the local government, increase its autonomy and entrepreneurship, and enable it to pursue local initiatives and local revenue generation more aggressively.

MIS can be used by local governments to effectively organize and analyze data and to provide valuable information for local management, planning, and policy decision-making purposes. If the MISs are based on complete and accurate information, they can help a city to improve accuracy, save time, reduce or hold down the number of personnel, improve productivity and efficiency, cut costs, perform tasks that could not be done before, make work easier, and facilitate or improve decisions.

The Role of the Central Government

The central government is advocating a common hardware and software platform and a unique MIS for all cities and towns in Romania. The approach is a vestige of the "global" approach of central planning during the previous regime and limits the workings of the market while attempting to control local governments from the center. However, compatible hardware and software systems and shared MIS applications for individual cities are justified from the point of view of efficiency, effectiveness, and cost, in particular when the partners interact intensely and exchange data and information continuously.

The Institutional Challenge: Changing the Attitude Toward MIS

In spite of local officials' positive attitude toward management information systems for local government, a basic misunderstanding remains in their approach to computerization. The city hall's usual approach to computerization is to procure hardware and software first, and then to consider training, applications design, and institutionalization. Such an approach is inadvisable, in both transitional and developed cities, because it has minimal effect. Moreover, there is a danger that little thought will be given to the elements of computerization beyond hardware and software. Information systems offices in city halls perceive the constraints to successful MIS development to be the lack of space, computers and networks, personnel, training, and understanding of the

decision-makers. The actual constraints to MIS development also involve the lack of planning for computer applications and their role in the institution.

"Hidden" Resources

One surprising feature in both Braşov and Focşani was the extent of various resources readily available with various agencies and institutions, in spite of the appearance of scarcity. The ICMA consultant assisted in the negotiations for sharing the existing resources among these institutions to computerize cadastral records. In Braşov, these resources included sophisticated hardware, software, personnel, data, money, and goodwill. If pulled together, they would be almost sufficient to start a significant cadastral pilot project. What was lacking was communication and know-how. For example, the Department of Forestry of the Braşov University, housed in a building across the street from the City Hall, had five PC ArcInfo installations, workstations and PCs, a digitizer size A0, a big plotter, an LCD panel, and students trained in digitizing and using ArcInfo software.

As for data resources, at Project Braşov Institute a 30-year veteran in Master Plans had manually converted planning-relevant 1992 Census data to urban sub-zones. It took him six months to achieve what a computer does in a couple of hours. However, a GIS-supported Master Plan would not be possible without his participation because the GIS enthusiasts in the City Hall Office of Information Systems had no experience in urban theory and planning. Another architect from Project Braşov Institute had the maps and data for a cadastre pilot in Braşov initiated three years ago by the Department of Urban and Regional Planning of the Ministry of Public Works (MLPAT) in Bucharest.

Significant resources were also available from the regii, in particular the larger ones. GIS hardware and software were available, and so were data, both attributes and maps. The regii's response to the City Hall's initiative was overwhelming: some of the participants in the City Hall meeting called the Office of Information Systems for several days in a row while the ICMA consultant was in town. All regii were willing to participate in the exchange of data by providing the City Hall with their utility network data and maps and receiving information on buildings and parcels, as well as other utilities networks. In a separate meeting the telecommunication regia, ROMTELECOM, offered to build the cable network between the City Hall and the regii for free.

In addition to this misunderstanding of the range of elements that MIS comprises, its implementation in a city hall can be further hindered by an accounting department that does not authorize expenditures for external consultants or for third-party software training of city hall personnel. Even purchasing software for the city hall is often perceived as unnecessary, in the absence of copyright laws.

To be successful, local government must reverse its approach to MIS and consider institutionalization, applications design, and training before procuring hardware and software. The institutionalization effort implies both achieving an internal consensus in the city hall and developing partnerships with the regii and other local institutions to minimize the costs, and increase the efficiency and effectiveness, of the shared MIS applications.

Several measures can be taken to achieve a consensus for the procurement, development, and use of a computer system for a city hall. They include a sound requirements analysis, an objective cost-benefit analysis, and open communication between key staff persons and elected officials. Communication is critical throughout the process because it promotes understanding of the need, costs, and impacts of automation. Understanding does not necessarily result in support, but at a minimum it provides all participants with a common framework and promotes educated decision-making.

Training is a critical, yet often overlooked, ingredient of developing MIS for city halls. The information systems offices of several city halls in Romania have state-of-the-art computers but no personnel trained to use them, and this situation is becoming more common.

Data collection is also critical. For example, to establish a decision support MIS, somebody has to gather, check, and correct vast amounts of data, digitize maps, and develop reporting systems and applications. In most such applications in the developed world, data collection accounts for 70-80 percent of the cost of implementing an MIS.

Finally, not sharing the data with other local agencies significantly increases the cost of MIS and decreases its impact. Different hardware and software platforms, different data formats and map scales, and different reporting systems make the MISs of the city hall, regii, and other institutions incompatible and expensive to use and integrate.

The answer to successful MIS applications within local government is building partnerships among the city hall, regii, universities, NGOs, and other local institutions to jointly develop shared management information systems on compatible hardware and software platforms.

Opening Up to Cooperation

Focşani had several severe drawbacks regarding development and implementation of information systems and computer applications for the City Hall. One was the lack of personnel: there were only two persons in the Office of Information Systems, and their exposure to software applications was limited. For example, nobody in the City Hall knew how to use Microsoft® Office. Another drawback was the lack of space, although the City Hall expected to move to a bigger building soon. Until then, the six to eight powerful computers, several of which were Pentiums,

sat idle on two desks in a small and crowded room, without the possibility of connecting in a local area network (LAN).

However, Focşani had two comparative advantages over other cities in Romania: one advantage was that the chief of the Office of Information Systems was also the chief accountant for the City Hall, which accounted for the City's flexibility in procuring hardware, software, and services. She rejected a "turn-key" proposal by a firm in Bucharest to automate all the activities in the Focşani City Hall and chose instead to procure hardware and software competitively.

The second comparative advantage of Focşani was that the City had a recently completed Master Plan, developed by Urban Project in Bucharest. The strategy for developing computer applications to support the Master Plan was discussed in detail, including data sources and quality, map scales, and sub-zone definition. The ICMA consultant recommended that Focşani obtain a list of planning-relevant Census variables from Project Braşov, which would allow the National Commission of Statistics in Bucharest to perform the conversion of Census data to sub-zones.

The City was determined to hire more personnel for the Office of Information Systems, to train them thoroughly, to buy software, to collect and build databases, and to cooperate with the regii in GIS pilot applications for the Master Plan and cadastre. In a meeting with the regii at the City Hall, and in subsequent meetings with the Computing Center and the Cadastre Office at their headquarters, all parties expressed a strong desire for cooperation and exchange of data and services.

Sequence of Events

The recommended sequence of events emphasizes institutionalization first. After partnerships are established and roles defined, the partners should design applications and plan for training, hardware/software procurement, data gathering, and refinement of the MIS applications. After a successful MIS is implemented, the partners should disseminate their experience to other cities in Romania. The steps to follow are detailed below.

Strategic Assessment

The first step in negotiating partnerships for developing shared MIS in local government is the strategic assessment step. The initiative for building a partnership must be taken by the city hall. The mayor, vice mayor, and head of the information systems office must identify the list of stakeholders and potential players. These would normally include the city hall, the local and national regii, the prefecture, the cadastre office, the police department, the local NGOs, the local university, and possibly the health and education district offices.

Once the list of players is developed, a meeting must be scheduled in the city hall with all the potential partners. At least half a day must be set aside for assessing the purpose of the partnership, the existing resources, and the possible steps toward developing a partnership. The key executives of each organization must participate at least in the preliminary discussion while technicians from each agency will develop an assessment and a preliminary plan and possibly schedule another meeting if necessary to complete the process.

The technical discussion will include a broad definition of the shared MIS proposed to be jointly developed and exploited; each agency's role, contribution, and benefits from the partnership; and the means to achieve the goals. The common resources should be assessed in terms of hardware, software, office space, computer networking, e-mail facilities, programmers and operating personnel, trained users, ongoing training programs, applications (both internal to the institution, such as accounting/budgeting/finance, and external to the institution, such as shared databases, maps, and data flows), and institutional acceptance and institutionalization of computer applications. Most likely, the internal MIS applications will not be appropriate for sharing as they may be specific to the agency and have often been developed in-house.

The outcome of the technical personnel's meeting(s) will be a clear assessment of existing resources, a draft design of a shared MIS, the roles and responsibilities of each participating agency, and a draft action plan including scheduling and budgeting. The design of the shared MIS must be flexible enough to allow adjustment and multi-purpose enough to offer each individual agency an incentive to participate in the partnership.

Important issues to discuss from the beginning of this process are the quality of data, data sharing, and data exchange protocols to ensure confidentiality of certain types of data. Also, much thought should be given to the issue of financing the project, and alternative sources of financing such as grants, matching funds, etc., should be explored. Finally, contingency plans should be developed, even at this early stage, to deal with unexpected events such as partners dropping out, funding blockages, etc.

Once the draft proposal is ratified by the executive management of each participating agency, protocols and memorandums of understanding must be drafted and signed by all partners.

Brokering Partnerships

During the visit to Braşov, the ICMA consultant assessed all existing software and computer applications in the City Hall. He met with City Hall officials and with representatives from the regii to assess the software and the applications being used by the regii and to explore the possibility of linking their applications with the applications and data in the City Hall. The consultant also met twice with the Project Braşov Institute, at both locations, to discuss and coordinate 1992

Census data disaggregation for urban sub-zones (*unitati teritoriale de referinţa*) required in the computer-supported Master Plan for Braşov.

At the suggestion of the City's Office of Information Systems, the consultant held a training seminar in the use of computers for local government, with the participation of the information systems staff and officials from the City Hall. The ICMA consultant offered computer demonstrations of simple mapping, GIS, and decision-support systems and discussed the hardware, software, data, and personnel required to run such applications.

The consultant made recommendations based on an assessment of the current status of computer applications in Braşov City Hall. A draft workplan was developed for the next six months, with emphasis on personnel training and development of simple database and mapping applications.

A clear sign that the City Hall was building skills and experience in computer applications was that they were following through point-by-point with the Plan for 1995. The Plan was developed in March with the assistance of the ICMA consultant. The Office of Information Systems was starting to implement a computer application for the Master Plan and was exploring the possibilities of developing a cadastre pilot together with the regii. Contact was established with GEOPLAN, a GIS vending and consulting firm in Bucharest that sells ArcInfo and ArcView, and discussions and visits took place in Braşov and in Bucharest, facilitated by the ICMA consultant. Software was received for free from GEOSYSTEMS. Training of City Hall personnel in using ArcView 2.1 was completed in the fall.

During his visits to Braşov, the ICMA consultant helped to facilitate a relationship between the City Halls of Braşov and Focşani. Since March 1995, several exchanges and workshops have taken place between Braşov and Focşani. Braşov shared its experience with Focşani and offered them software that the City had developed in-house.

Follow-up and Implementation

The follow-up for MIS partnerships includes developing a detailed implementation plan based on the draft action plan, with a clear scope of work, roles and responsibilities, deadlines, resource allocation, and contingency plans. The project implementation requires not only a good implementation plan but also the establishment of a coordinating group and an office, which can be either in the city hall or in one of the other agencies. It is likely that the city hall will have a central role in the partnership because of its routine responsibilities and extensive links with all the other agencies. However, the physical location of the centrally shared MIS can be anywhere that space is available as long as there are no restrictions of access and use, since all partners will be networked to the system.

Continuous feedback from participating agencies and fine tuning of the design and execution of the system are to be expected. Extensive testing is necessary before moving into large-scale operation.

Dissemination

After the shared MIS is operational, the partners should perform a joint assessment of the project. The outcome of this assessment should be used to further improve the system and to disseminate the positive experience to other cities in Romania.

The dissemination effort could be undertaken principally by the Federation of Municipalities, which could publicize the project in the form of brochures, newsletter articles, on-line (Internet) communication, conferences, and workshops. The Federation could also offer direct technical exchanges and technical assistance to other cities seeking to develop similar shared MISs.

A major role in the dissemination process can be played by local NGOs and international donors, such as USAID, the World Bank, the Know-How Fund, EC-PHARE, Soros Foundation, etc. The donors can provide high-leverage funds and technical assistance to cities in areas where local budget money cannot be spent because of accounting and budget restrictions, e.g., in software training, outside contracting of data gathering services, digitizing, etc.

Concluding Recommendations

- While local governments should be pursuing more independence and seeking their own solutions to local problems in most areas, shared MIS applications on compatible hardware and software platforms should be explored with the regii and other local agencies. These can minimize the cost and maximize the efficiency and effectiveness of MIS.

- In approaching the development of a shared MIS, the order of steps to be taken is: institutional consensus, applications design, training, and software/hardware procurement.

- To begin a partnership, the executive management of all agencies involved must agree on a proposal and sign a memorandum of understanding.

- The partners should carry out a thorough and creative strategic assessment in the preliminary meetings, in order to assess the existing resources and needs of each participating agency.

- A major emphasis should be placed on training in hardware and software use, application development, and communication. Where personnel resources are not available within a certain agency to implement the shared MIS project, skilled personnel and training can be

shared among the participating agencies. If the partnership itself lacks skills, know-how, and personnel in a certain area, outside contracting may be the best solution to the problem.

- A coordinating group or officer and office space should be established, and the coordinating officer should have easy access to the executive management of all agencies.

- Continuous feedback, communication, testing, and fine tuning are critical elements of a successful shared MIS. Contingency plans should be developed from the onset of the effort.

- The partners should actively explore creative funding sources, including relatively small, yet high-leverage, donor grants and technical assistance.

- Dissemination should be pursued even before the end of the project's implementation. It can benefit not only the other local governments in Romania but also the partners of the shared MIS by opening up technical assistance and business opportunities, which in turn can contribute to the project's successes and sustainability.